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WASHINGTON, D. C.

Agriculture.

Migration of farm population and flow of farm wealth. By Fred R. Yoder and A.A. Smick. 1935. 24p. Washington. Agricultural experiment station. Bulletin no. 315.

Secretary Wallace surveys the future. By Joseph Wheatley. Successful Farming. v.33, no. 11. November, 1935. p. 12-13, 52-55. It is our function to see that there is same quantity of food and fiber available per capita for consumption in this country as there was in the 1920's. Secondly, we must see that quantities available in excess of that for which foreign purchasing power is no longer available, should not be produced. That, in a nutshell, is path toward economy of abundance.

Air Conditioning.

Comfort standards for summer air conditioning. By F.C. Houghton and Carl Cutherlet. Heating, Piping & Air Conditioning. v.7, no. 11. November, 1935. p.543-550.

Conditioned air; no drafts. By R. B. Purdy. Power. v.79, no. 11. November, 1935. p.580-581. Poor air distribution cause of much discomfort in air-conditioned rooms. Here are factors to be watched and methods of distribution that have proved successful.

Estimating air conditioning operating costs. Heating & Ventilating. v.32, no. 10. October, 1935. p.28-29.

Heat balance analysis for air conditioning. By Louis A. Harding. Heating, Piping & Air Conditioning. v.7, no. 11. November, 1935. p.531-533. Heat balance method of analysis for comfort air conditioning, as contrasted with method of individual differences usually employed, is explained here, illustrated by typical example worked out in detail. Table of properties of refrigerants and forms for recording computations are shown.

Subjective reactions of human beings to certain outdoor atmospheric conditions. By A. Winslow and L.P. Herrington. Heating, Piping & Air Conditioning. v. 7, no. 11. November, 1935. p.551-556. Study reported was primarily undertaken in attempt to discover whether any subtle and hitherto recognized climatic factors might exert demonstrable effect upon subjective reactions as to pleasantness or unpleasantness of outdoor atmosphere.

Air Flow.

New instrument measures speed of air currents. Agricultural Engineering. v.16, no.10. October, 1935. p.410. Operation of instrument depends on cooling of heated wire when exposed to air currents. Instrument is small

Air Flow (Cont'd)

enough to be placed under floor rack of car, and may be read from outside without disturbing conditions inside.

Using aerodynamic research results in civil engineering practice. By W. Watters Pagon. Engineering News-Record. v.115, no. 18. October 31, 1935. p.601-607. Attempt to correlate large mass of vitally important data virtually unknown to civil engineer, and to present it in form of specification of practical utility in design of structures subject to wind forces.

Alcohol.

Progress in alcohol fuel plans. Pacific Rural Press. v.130, no.9. August 31, 1935. p.204.

All-American Canal.

Construction of the all-American canal. By Jerome H. Fertig. Military Engineer. v.27, no.156. November-December, 1935. p.467-469.

Associations.

Forty-second annual meeting of the Farm Equipment Institute. Farm Implement News. v.56, no.22. October 24, 1935. p.39-43. Officers elected.

Higher appreciation of industry is Institute's 1936 goal. Implement & Tractor. v.50, no.21. October 19, 1935. p.16-17, 32-33. With record five-year attendance, manufacturers express confidence in future. Greater effort to lower costs of farm production and to minimize need for government in business are parts of ambitious program for coming year. New official roster.

Belts.

Multiple V-belts. Construction. Selection. Operation. Power. v.79, no.11. November, 1935. p.590-591. Only when all factors are considered can V-belt drive be selected properly. Poor selection leads to loss of power and generally poor operation, both of drive and of driven unit.

To prevent belt static. By Wayne Davies. Factory Management & Maintenance. v.93, no.8. August, 1935. p.355-356, advertising page 52.

Building Construction.

American Institute of Steel Construction considers house construction. Domestic Commerce. v.16, no. 12. October 30, 1935. p.564. Memorandum from T.J. Foster to American Institute of Steel Construction. Normal requirement in United States is for about 450,000 families per year, and houses cost an average of about $4,000 per unit, or total of $1,800,000,000.

Building Construction. (Cont'd)

Building code and new materials of construction. By Rudolph P. Miller. Industrial & Engineering Chemistry. v.27, no.10. October, 1935. p. 1120-1122. In preparing building codes, two tendencies - (1) to aim toward insuring, by statutory compulsion, better construction than is actually necessary to secure public safety and (2) to make building code specification for good construction, prescribing in detail just how various types shall be designed and executed in the field - act as deterrents to development of new materials and methods. Two things are necessary for satisfactory relationship between building codes and new materials. (1) convincing and reliable information regarding sufficiency of material to meet requirements of its field of application and (2) broad enough provision in building law to permit, without unnecessary delay, use of new material upon submission of satisfactory proof.

Give the rural builder a break: Editorial. American Builder and Building Age. v. 57, no. 11. November, 1935. p.19-20. Natural inclination of many persons to want to locate their little homes in low cost, "off the pavement" areas - homes they can pay for easily on long-time amortized basis - should be encouraged by F.H.A. rather than discouraged as at present.

New activity in construction. Engineering News-Record. v.115, no.18. October 31, 1935. p.612-614. Upturn in volume of engineering construction is first definite response to large increase in new capital. Industrial building at a new pace is bright spot of private construction.

New developments in housing field. American Builder and Building Age. v.57, no. 11. November, 1935. p.36-37. Survey of methods and materials used in recent dwelling construction experiments, and names of companies concerned.

Precast concrete joists in farm structures. By F.A. Lyman. Agricultural Engineering. v.16, no.10. October, 1935. p.399-400.

Concrete.

Possibilities of puzzolanas in mortars and concretes. By Edw. W. Scripture, Jr. Engineering News-Record. v.115, no.17. October 24, 1935. p.563-567. Advantages and pitfalls that accompany use of puzzolanas are analyzed.

Cotton and Cotton Ginning.

Brief discussion of gin saw tooth form and shape. By C.A. Bennett. Cotton Ginners' Journal. v.7, no.1. October, 1935. p.3-4, 14.

Cotton ginning rates in Oklahoma and neighboring states. Current Farm Economics. Oklahoma Agricultural experiment station. v.8, no.5. October, 1935. p.99-102.

Cotton and Cotton Ginning.

Cotton gins in good condition. By Charles A. Bennett. Southern Agriculturist. v.65, no. 8. August, 1935. p.27. When last bale of cotton has been rolled out of press box, clean and inspect gin for repairs, replacements and realignments of parts and put them in first-class condition for next ginning season before experiences of this season are forgotten. And make frequent inspection of equipment during ginning season. Cotton piping, lint flues and airblast piping can be made tight by taping joints with heavy manila adhesive paper; extensive repairs or replacement require sheet metal or tinsmith service. Inspect shafting, boxes, ball bearings and power transmission items, such as belts, vee-belts and clutches, for alignment and repair.

Economic development of the cotton-textile industry in the United States, 1910-1935. A selected bibliography. Compiled by Emily L. Day and Rachel P. Lane. Washington, D.C. 1935. 137 p. mimeographed. U.S. Department of Agriculture. Bureau of Agricultural Economics. Agricultural economics bibliography no. 57.

New cotton picker. International Cotton Bulletin. v.14, no.53. October, 1935. p.42-43. J.D. and M.D. Rust, of Memphis, have continued experiments with their cotton picking machine and considerable improvements have been made. Consists primarily of endless belt carrying several hundred smooth wire spindles, which as the belt passes over rows of cotton, penetrate the plants. Prior to their entrance into plants, spindles are automatically moistened, moisture causing open cotton to adhere to rotating spindles, be wrapped around them and pulled from burr. Cotton is then stripped from spindles and delivered by rotating fan to container. Machine will cover about an acre of cotton per hour, amount of cotton picked depending upon yield per acre. It is claimed that owing to nature of smooth wire spindles, it also acts as grader. Thus, unmatured or faulty bolls are not gathered first time tow is passed over. Cotton picked by Rust machine is fluffed by air blast of delivery fan and this improves quality for ginning, cost of which process is somewhat less than for hand-picked cotton, because machine does not gather hulls and other foreign matter, which usually is gathered by hand pickers. Moreover fiber is not injured, and grade compares favorably with hand picked cotton. Total cost of operation is estimated at two dollars per acre.

Outline of cotton ginning tests. By Chas. A. Bennett and F.L. Gerdes. 1935. 17p. Mimeographed. U.S. Department of Agriculture. Bureau of Agricultural Engineering.

Research work in cotton ginning. By Charles A. Bennett. Agricultural Engineering. v.16, no.10. October, 1935. p.389-395. Laboratory work is being done along following lines: (Seed cotton and ginned lint.) 1. Determination of fiber length distribution. 2. Tensile strength of fibers. 3. Clingability of fibers. 4. Nep count and classification. 5. Study of fiber structure, behavior, properties and characteristics. 6. Study of seed coat structure and characteristics.

Cotton and Cotton Ginning. (Cont'd)

7. Color determinations. 8. Moisture determinations. Seed cotton: Determination of tenacity of attachment of fibers to seed. Cottonseed: Studies of fibrous residue left on seed, including both quantitative and qualitative measurements. Waste: Quantitative and qualitative analyses.

Some engineering features involved in the United States cotton ginning investivations. Part I. Mid-South Cotton News. v.13, no.1. August, 1935. p.5.

Some engineering features involved in the United States cotton ginning investigation. Part II. Mid-South Cotton News. v.13, no.2. September,1935. p.2-3.

Dams.

Grand Coulee dam. By Harold O'Connell. Compressed Air Magazine. v.40, no. 10. October, 1935. p. 4840-4847. General features of ultimate power and irrigation scheme and scope of current contract.

Grouting checks leakage in earthfill dam. B. E.M. Wilbur. Engineering News-Record. v.115, no.15. October 10, 1935. p.499-500. Old earth dam that had been raised and provided with sheetpile cutoff of uncertain penetration made watertight by grouting the fill.

Pine View dam will not harm Ogden artesian water supply. Engineering News-Record. v.115, no.18. October 31, 1935. p.596. U.S. Geological Survey has completed investigation of artesian wells in valley. As result of survey it was determined that filling of reservoir would exert pressure on artesian bed thereby increasing pressure and discharge from wells. Because of high compression of soil at Artesian Park it is not considered probable that water stored in reservoir will seep into artesian bed.

Project includes 52 dams. Washington Farmer. v.60, no.21. October 17, 1935. p.26. Vast scheme is under way to more effectually link together two greatest rivers of central Europe - the Rhine emptying into North Sea, and Danube emptying into Black Sea. European engineers propose to make river Main and Danube constantly navigable, and to cut new connecting channel between two rivers in place of obsolete Ludwig canal. Another waterway enterprise in Germany is canalization of Neckar, from Heidelberg to Heilbronn, - distance of 71 miles.

Third T.V.A. dam under way at Pickwick landing. Engineering News Record. v.115, no. 19. November 7, 1935. p.636-639. Tennessee Valley Authority begins work on another of its six dams for development of Tennessee river. Form of valley floor results in design unlike that at Muscle Shoals and Wheeler. No power is included in present undertaking.

Deserts.

Sahara desert spreading one kilometer a year. Science News Letter. v.28, no. 753. September 14, 1935. p.168. During past 300 years they have encroached some 186 miles into what was once fertile farm and grazing lands. Natives practice what is called "shifting agriculture." They clear piece of land, burn felled trees, cultivate soil for year or two or three, then move on to repeat performance elsewhere, leaving abandoned clearing to grow up into bush. Forest does not take it back. Second factor is further destruction of forests by fires deliberately set. Increasing populations depending on cattle, sheep and goats have introduced third factor, overgrazing.

Ditches.

Spending less on ditches. Arizona Producer. v.14, no.16. Nov. 1, 1935. p.6. New tractors, mowers and dredger cut maintenance for water users.

Drainage.

Lake turns to desert when unwisely drained. Science News Letter. v.28, no.749. August 17, 1935. p.103.

Electric Home and Farm Authority.

Electricity authority enlarged. The Farmer. v.53, no.17. August, 1935. p.15. Electric Home and Farm Authority has been reincorporated and reorganized to give its operations national scope. In the past it has been limited to a few southern states. It will undertake financing of retail sales of electrical and plumbing equipment and appliances in cities and in rural areas.

Electric Plants.

You can have electricity too. Prairie Farmer. v.107, no. 19. September 14, 1935. p.4. Individual plant makes it unnecessary to wait for a high line.

Electric Services, Rural.

Electricity consumers cooperative. By George W. Kable. Agricultural Engineering. v.16, no.10. October, 1935. p.401-402, 407.

More power to the farmlands. By Floyd B. Nichols. Successful Farming. v.33, no. 11. November, 1935. p.8, 44-45. Explains advantages and disadvantages of building co-operative power lines, and government's part in their financing.

Use of subsidies suggested for rural electrification. Engineering News-Record. v.115, no.19. November 7, 1935. p.636. Planning of rural electrification on comprehensive scale hitherto unthought of,

Electrical Services, Rural.(Cont'd)

based upon supplying of current in rural territory on on-profit basis through state and federal subsidies is suggested by Senator George W. Norris, Nebraska, in letter addressed to Morris L. Cooke. Replying to Senator Norris, Mr. Cooke points out that REA planning has so far been based upon self-liquidating projects only, without subsidy, and that it is hoped to treble present bumber of electrified farms on this basis through reductions in costs.

Electric Wiring.

Lower cost wiring. By J.C. Damon. Electrical World. v.105, no.19. September 14, 1935. p.32-34, 69. Table I - Cost of electricity and of appliances to use it.

Electricity on the Farm.

Building farm load in the Northwest. By D.B. Leonard. Electrical World. v.105, no.19. September 14, 1935. p.74. Table shows farm load sold in Oregon last year.

Electric brooder keeps little pigs warm enough. Science News Letter. v.28, no.757. October 12, 1935. p.232. Brooder is simple device. About twenty-two feet of copper-sheathed heating cable was enclosed in two-foot pan of metal and wood. This pan is connected by heavily insulated wire to ordinary 120-volt lighting current. Initial cost of brooder is very low.

Electric pasteurization of milk. By B.E. Getchell. Agricultural Engineering. v.16, no.10. October, 1935. p.408-410. Electric pasteurizer offers following outstanding features: 1. Better milk. 2. Economical operation. 3. Fast, dependable operation. 4. Simplicity of operation. 5. Flexible operation. 6. Compact installation. 7. Rapid, easy cleaning.

Electric warmth in the country home. By Gladys M. Dowman. Rural Electrification and Electro- Farming. v.11, no. 125. October, 1935. p. 159-160.

Electricity boosts a new day for farm families. Jersey Bulletin & Dairy World. v.54, no. 42. October 16, 1935. p.1301.

Electricity has 200 farm jobs. Kansas Farmer. v.73, no.21. October 12, 1935. p.18. Chart illustrates surprising scarcity of electric service on American farms. Contrast between rural use of electricity in United States and that in foreign countries is equally striking. France now is working to bring electric service to every rural home in that country by 1940. In Sweden more than 40 percent of farms are electrified. Canadian rural electrification has been very successful. In Japan 9 farm homes out of 10 have electric service.

Electrified farmer in the New Deal dell. By Raymond S. Tompkins. Electrical World. v.105, no. 19. September 14, 1935. p.42-44.

Electricity on the Farm. (Cont'd)

Heat by electricity, and its application in milk production. By C.K. Jones. Utah Farmer. v.56, no. 5. October 10, 1935. p.18.

Iowa active in rural electrification. Electrical World. v.105, no.19. September, 1935. p.41, 69. Iowa State College works with County Agents to get facts and disseminate information. Details of bulletins sent and questions asked the farmers. Table gives Iowa estimates of rural line costs.

Latest developments in rural electrification program. Domestic Engineering. v.146, no.4. October, 1935. p.65, 169. First power, next water supply, and then plumbing is order of development in huge market.

Lighting - its advantages to the poultry farmer. Rural Electrification and Electro-Farming. v.11, no. 125. October, 1935. p.141-142. Some notes on the practical value of artificial lighting on the poultry farm. Facts show that correctly organized electric lighting is beneficial and financially successful.

More power to the farmlands. By Floyd B. Nichols. Successful Farming. v.33, no.9. September, 1935. p.10-11, 53-54. Tells how those not already using electricity can get it under new Government plan.

Profitable use of electricity on the farm. By A.L. Shepherd. Utah Farmer. v.56, no.6. October 25, 1935. p.9. Many who keep their ears to the ground for new improvements in farming methods, feel that greater use of electricity through development of new devices may prove to be next big chance to come in farming.

Survey technique in rural electrification. Electrical World. v.105, no. 21. October 12, 1935. p.29, 82. Bay state study costs $60. per mile of prospective extension. Eight miles covered in detail per week by each field party.

Ultraviolet for poultry and dairy. By Lawrence C. Porter and J.P. Ditchman. Magazine of Light. v.4, no.6. Fall, 1935. p.19-25. Table I gives total operating cost per hour.

What are the facts on rural electrification? Northwest Farmer. v.4. no.8. October, 1935. p.4.

Erosion Control.

Development of the asphalt mattress. By Walter C. Carey. Military Engineer. v.27, no.156. November-December, 1935. p.430-436. Important development in art of protecting river banks from erosion and caving.

Drought, wind and flood all cause soil erosion. Science News Letter. v.28, no.747. August 3, 1935. p.77. If Soil Conservation Service can initiate erosion-control measure on all seriously erosive lands

Erosion Control. (Cont'd)

within next ten years, if it can secure reasonable control of erosion within next twenty years, and if it can establish preventive measures on practically all better lands of country within next generation, it will have gone long way toward solution of problem.

Forest fire renders soil more liable to erosion. Science News Letter. v. 28, no. 752. September 7, 1935. p.150. In general, more severe the fire, more severe also was subsequent erosion. On steeper lands, lightly burned areas, on which fire took only top layer of forest floor litter showed relatively little erosion. Only about ten per cent of such plots were eroded. But when fire had been really severe, as high as 80 per cent of plots showed erosion.

Improving a whole community. By T.C. Richardson. Farm & Ranch. v.54, no.16. August 15, 1935. p.3, 7. Model soil-saving and soil-improvement demonstration at Lindale.

Pressure of population cited as cause of erosion. Science News Letter. v.28, no.747. August 3, 1935. p.76-77. Pressure of population, in the old lands, is what led men to strip uplands of their protecting forests, and thus release destructive power and wind to bear soil down the hills, and spread flood and rain in the valleys.

Relative efficiency of roots and tops of plants in protecting soil from erosion. Science. v.82, no.2128. October 11, 1935. p.354-355. Table 1 shows that with growth of roots erosion time was somewhat more than doubled, but with corresponding development of tops it increased 9 to 10 times.

Soil erosion control in farm operation. By H.B. Roe and J.H. Neal. 1935. 20p. Minnesota. University. Agricultural extension division. Special bulletin no. 170.

Soil erosion experiments. By W.O. Collins. 1935. 8p. Georgia. College of Agriculture. Bulletin. v.35, no. 10b.

Stop the soil thieves now. By Alexander Nunn. Progressive Farmer. v.50, no.10. October, 1935. p.8, 27. No country in world, not even China, has been so prodigally wasteful of its soil resources in as short a period of time as has America. Bird's-eye view of work now under way in Alabama and Georgia.

Thieves in Farmerica. By F.B. Nichols. Successful Farming. v.33, no.11. November, 1935. p.14-15, 58-59. Discussion of soil erosion.

Wind erosion on summer-fallowed wheat lands of the West. By A. L. Hafenrichter and H.M. Wanser. Soil Conservation. v.1, no.2. September, 1935. p.8-10.

Fans.

Fan to motor connections. What the heating engineer should know about them. By George H. Hall. Heating and Ventilating. v.32, no.10. October, 1935. p.21-23.

Farm Buildings and Equipment.

Better equipment or better stock - which comes first? By Raymond H. Gilkeson. Missouri Ruralist. v.76, no. 16. August 10, 1935. p.3, 19.

Farm use of concrete on the increase. By W.G. Kaiser. Hoosier Farmer. v.29, no.10. October, 1935. p.30, 33.

Farm Machinery and Equipment.

Farm map changed by use of improved machines. By S.H. McCrory. Farm Implement News. v.56, no.23. November 7, 1935. p.56. First result of improved agricultural machinery was larger farms and large machinery. But now trend is towards adapting mechanical equipment to the small farm. One-plow tractor and small combine harvester are examples. New machines and improvement of present day machinery probably will continue to make changes in locations where crops can be most profitable grown, and even in kind of crops produced.

Farmers of the future and their equipment. By Ellen Newman. Farm Implement News. v.56, no.23. November 7, 1935. p.38, 52.

High-speed haying. The Farmer. v.53, no.17. August 31, 1935. p.7. New equipment demonstrated.

History of the plow. Compiled by Lillian Church. 1935. 16p. Mimeographed. U.S. Department of Agriculture. Bureau of Agricultural Engineering, Washington, D.C. Information series no. 48.

Massey-Harris announce their new row-crop - a two- to three-plow model. Farm Implement News. v.56, no.23. Nov. 7, 1935. p.30-32, 37.

Massey-Harris organization, its history and products. Farm Implement News. v.56, no.24. November 7, 1935. p.26-30.

New plow shields promote efficient fall plowing. By C.R. Overstreet. Purdue Agriculturist. v.30, no.1. October, 1935. p.5. Brief list of "hints" for plowmen designed to improve plowing efficiency, as follows: (1) Plow botton is designed to do its best work when set to depth equal to one-half its width (2) Plow should be set to cut its normal width of furrow slice. (3) Normal position for plow base is level. (4) Plow share should be kept in good condition at all times. (5) Jointer is often used alone on walkers, and works very satisfactorily in stubble or short trash. (6) When plowing under long trash use of rolling coulter is essential to prevent clogging. (7) Use of combination rolling coulter and jointer is very desirable on all sulky and gang plows. (8) Use of plow trash shields which have been developed by Purdue agricultural engineers are big help in securing clean plowing.

Spreaders earn tax money for many farmers. By E.T. Leavitt. Farm Implement News. v.56, no.23. Nov. 7, 1935. p.42.

Farm Machinery and Equipment. (Cont'd)

State of the industry. Implement & Tractor. v.50, no.22. November 2, 1935. p.12-13, 28, 30. Excerpts from address delivered by H.G. Davis, director of Research Farm Equipment Institute, at recent joint session of Manufacturers and Dealers in Chicago.

Technical ancestry of grain-milling devices. By Russell H. Anderson. Mechanical Engineering. v.57, no.10. October, 1935. p.611-620.

Farm Mechanics.

How many tons in your hat stack? Washington Farmer. v.60, no.22. October 31, 1935. p.3, 6. Up-to-date measuring methods.

Fences.

Economic aspects of farm fence. Implement & Tractor. v.50, no.20. October 5, 1935. p.13, 42.

Fertilizer spreaders.

Mechanical placement of fertilizers: Review of recent developments. By G.A. Cumings. Agricultural Engineering. v.16, no.10. October, 1935. p.396-398.

Fireplace.

Bibliography on fireplaces, 1900-1934. Compiled by Dorothy W. Graf. U.S. Department of Agriculture, Bureau of Agricultural Engineering, Washington, D.C. 16p. Mimeographed.

Fireplaces built for comfort and utility. By J.B. Temple. Popular Mechanics. v.63, no.6. June, 1935. p.936-939. Table gives proportions for fireplaces of various sizes.

Flood and Flood Control.

Corps of engineers studies new river flood control. Engineering News-Record. v.115, no.18. October 31, 1935. p.623. Entire cost of which is estimated at about $13,000,000. Present proposals call for dam 150 feet high and 1,850 feet long. When full, reservoir created by dam, will be 35 miles long, and will have capacity of 635,000 acre-feet. Reservoir will be used to regulate flow and to prevent floods in Kanawha valley, and also to produce hydroelectric power. Project will aid in flood control, prevention of soil erosion and stream pollution, and power development. Sale of power is expected to make it self-liquidating.

Flood control zones established under Washington law. Engineering News-Record. v.115, no.16. October 17, 1935. p.529. Under supervision of state director of hydraulics. Flood zoning Act declares that "alleviation of recurring flood damages to public and private property, to

Flood and Flood Control. (Cont'd)

public health and safety, and to development of natural resources of same, is declared to be a matter of public concern, and as aid in effecting such alleviation state of Washington, in exercise of its sovereign and police powers, hereby assumes full regulatory control over navigable and non-navigable waters flowing or lying within borders of state, subject always to federal control of navigation. State regulatory control shall be exercised through regulatory orders, designation of flood control zones, and issueance of permits ***** and shall be exercised over planning, construction, operation and maintenance of any works, structures and improvements, public or private, which might, if improperly planned, constructed, operated or maintained, adversely influence regimen of stream or body of water, or might adversely affect life, health and property against damage by floodwater."

Overtopping of small dam causes flood in Italy. Engineering News-Record. v.115; no.18. October 31, 1935. p.607-611. Excessive rainfall results in overtopping and complete collapse of smaller of two Zerbino dams above Molare on Orba river in Italy. Fast erosion of soft rock believed contributing factor.

Remarks on the Finger Lake floods. By C. McD. Townsend. Military Engineer. v.27, no. 156. November-December, 1935. p.413-414.

Taming of ol' man ribber. By Frank Thone. Science News Letter. v.28, no.750. August 24, 1935. p.118-119, 126-127. Scientists lay plans to keep water, most valuable of our mineral resources, as servant, not enemy.

Flow of Water and Gases.

Flow of water through orifices. By S.R. Beitler. 1935. 73p. Ohio. Engineering experiment station. Bulletin no. 89. Study of 1-in., $1\frac{1}{2}$-in., 2-in., 3-in., 6-in., 10-in., and 14-in. lines.

Studies of pipe friction and capacity loss reported. Engineering News-Record. v.115, no.17. October 24, 1935. p.573-574. Two-year investigation by committee of N.E.W.W.A. reveals large differences between predicted and actual loss in capacity of cast-iron pipe - p^H values of water are correlated with rate of loss and corrective measures suggested.

Frost Protection.

Value of orchard heating. By Floyd D. Young. California Cultivator. v. 82, no. 20. September 28, 1935. p.569, 577.

Heating.

Clean heat for the cold weather. By V.L. Sherman. American Builder and Building Age. v.57, no. 11. November, 1935. p.50-54. Factors in construction and equipment determine quality of air that is delivered from any heating system.

Heating. (Cont'd)

More winter comfort at lower fuel cost. By Ernest Eberhard. American Home. v.14, no.4. September, 1935. p.282-283, 309-312.

Hitches.

Big team hitches. Ohio Farmer. v.176, no.3. August 3, 1935. p.59.

Houses.

Bibliography on stone houses, 1920-1934. Compiled by Dorothy Graf, Librarian. 1935. 4 p. mimeographed. U.S. Department of Agriculture. Bureau of Agricultural Engineering.

House that runs itself. Popular Mechanics. v.63, no.6. June, 1935. p.805-806, 148A. Prices range from $3,800 for five-room bungalow to $9,500 for two-story house, with fifteen models available. Extra rooms can be added as needed.

101 new small houses. Architectural Forum. v.63, no.4. p.233-435. October 1935. Gives plan, and full construction data.

Small house: 1935. Architectural Forum. v.63, no. 4. October, 1935. p.228-232. Gives comparison of new financing practices and chart showing how much it costs to finance homes from $5,000 to $20,000 over periods of ten, fifteen, and twenty years.

Hydraulics.

Hydraulic laboratories in the United States. 1st revision, October 1, 1935. 1935. 91p. Mimeographed. U.S. National bureau of standards, Washington, D.C.

Insect Control.

Light traps for insect control. By Lawrence C. Porter and Willard C. Brown. Magazine of Light. v.4, no.6. Fall, 1935. p.26-28.

Insulation.

Cork insulation: changes in modern practice. By P. Edwin Thomas. Ice and Cold Storage. v.38, no.451. October, 1935. p.166.

Metallic heat insulation. By J.T. Nichols. Mechanical Engineering. v.57, no.10. October, 1935. p.621-624.

Thin aluminum foil highly efficient as heat insulator. Science News Letter. v.28, no.752. September 7, 1935. p.157. Laboratory experiments showed that single diaphragm of aluminum foil medially placed in inclosed one-inch air space has heat-insulating value equivalent to that of one inch of cork. In practical exper-

Insulation. (Cont'd)

iments conducted in corrugated iron buildings in Egypt, temperature on inner surface of 3-ply lining was 12 degrees Fahrenheit lower than that on inner surface of corrugated iron; while in similar building which was provided with metallic insulation of aluminum foil in addition to 3-ply lining, temperature of inner lining surface was 23 degrees Fahrenheit lower than that of inner surface of corrugated iron, and air temperature of latter building was 3.6 degrees Fahrenheit lower than that of the first.

Irrigation.

Irrigation objectives. By O.W. Israelson. Utah Farmer. v.56, no.5. October 10, 1935. p.9. IX. Time to apply irrigation water.

Need for salt tolerance project. California Cultivator. v.82, no.17. August 17, 1935. p.482-483. Gives brief outline of more essential features of salt tolerance project.

New irrigation laws. Western Far, Life. v.37, no.4. April 15, 1935. p.23. S.B. No. 470, by Senator Headlee. Forbidding pumping of artesian wells for irrigation at altitudes 7,200 feet. S.B. No. 437, by Senator Hunter. Making minor changes in statute governing election of directors of irrigation districts. S.B. No. 402, by Senator Headlee. Permitting drainage and irrigation districts to operate as improvement districts, water used for irrigation to be replaced by water collected in drainage area. S.B. No. 396, by Senator Knous. Amending statutes governing irrigation districts so that districts will be able to refund their bonded indebtedness with federal funds. S.B. No. 119, by Senators Ritchie and Smith. Changes law governing institution and trial of proceedings involving change of point of diversion in sales of water rights. S.B. No. 37, by Senator Headlee. Extending time of Rio Grande compact.

Salinity of irrigation water and injury to crop plants. By Frank M. Eaton. Part I. California Citrograph. v.20, no. 10. August, 1935. p.302, 322, 324, 325. Accumulation of salts in soils, due to poor irrigation management, as distinct from conditions that prevent adequate leaching, is largely responsible for interest in reclamation methods. Financial loss and human suffering precede call for reclamation. Much investigational and demonstration work is yet to be done before facts in this regard can be adequately presented to water users.

Levees.

Muck subsidence under Okeechobee levee. By J.W. Bruce and I.M. Pafford. Military Engineer. v.27, no. 156. p. 457-460. Brief resume of project.

Lighting.

Lighting the farm home. Magazine of Light. v.4, no.6. Fall, 1935. p. 11-17.

Modern lighting. Pencil Points. v.16, no.10. October, 1935. p.527-532.

Lubrication.

Lubrication of air conditioning equipment. Refrigerating Engineering. v.30, no. 4. October, 1935. p.201-203. Review of practice as to various types of systems.

Miscellaneous.

Digest of the purposes of current federal agencies. October 1, 1935. 48 p. Mimeographed. United States Information Service, Washington, D.C.

Getting ten millions back to work. By Laurence Stern. Magazine of Wall Street. v.56, no. 13. October 12, 1935. p.634-636, 671-672. Must America face a dole, or can industry provide the answer to the gravest problem in the depression's aftermath?

Officials and organizations concerned with wildlife protection, 1935. Compiled by Frank G. Grimes. 1935. 16p. U.S. Department of Agriculture. Miscellaneous publication no. 231.

Progress of automobile engineering. By Sir Henry Fowler. In Minutes of Proceedings of Institution of Civil Engineers. v.238. London, 1935. p.477-502.

Workable rental formula that fixes the room return required for all land and building costs, financing plans, and operating budgets. Architectural Forum. v.63, no. 4. October, 1935. p. 443-444.

Motors.

Electric drive of barn and outdoor machinery. By Russell Thoms. Rural Electrification and Electro-Farming. v. 11, no. 124. September, 1935. p.109-111. Notes indicating types and advantages of electric motors in use in farming industry. Pictures are of installations at Rothansted Experimental farm.

Plywood.

Phenolic resin adhesive in the plywood industry. By L.A. Sontag and A.J. Norton. Industrial & Engineering Chemistry. v.27, no. 10. October, 1935. p. 1114-1119. Development of phenolic resin adhesives and technic for using them in manufacture of plywood has made possible water-proof bond for plywood. Most recent of series of developments in use of phenolic resin adhesives for plywood is new method of applying resin through medium of colloidal suspension of adhesive in water.

Poultry Houses and Equipment.

New developments in poultry houses. By Loyal F. Payne. Successful Farming. v.33, no. 9. September, 1935. p.56-57. Insulating floor with straw. Straw loft poultry house. Ventilation. Cobs for litter. Rubber tops for catching coops. Electric water heaters.

Power.

Behind the kilowatt. By Ben Hibbs. Country Gentleman. v.105, no.9. September, 1935. p.5-7, 78-79. In this article it is purpose to compress at least some small portion of story of power industry - to review several technical achievements which have contributed to rise of our new slave, kilowatt.

Power for your pump. By W.E. Code. Western Farm Life. v.37, no.9. September 15, 1935. p.6. Old autos, electric motors, gas engines and Diesels, all are used for irrigation.

Power Projects.

Central Valley project approved. Reclamation Era. v.25, no. 10. p.201-202. Provides for orderly development by conservation of water resources of Sacramento and San Joaquin rivers, for the benefit of lands having insufficient supply. Storage is contemplated in Kennett Reservoir, on upper Sacramento river near Redding, and delivery of part of surplus water in the Sacramento to the San Joaquin river will be accomplished by cross canal. Benefits from construction and operation of project are many. Navigability of Sacramento river will be restored from its mouth to =Red Bluff. Irrigable lands along Sacramento river will receive assured water supply, and also additional flood protection. Maintenance of higher levels will mean reduction of pumping charges for irrigation water. Dependable water supplies will be assured municipalities in Sacramento Valley. Sacramento-San Joaquin delta will be freed from salt water menace, and its 400,000 acres of producing lands will have ample water. Manufacturing industries and agricultural areas in Contra Costa County will obtain adequate supplies of fresh water. Navigation on the San Joaquin river can be restored for 86 miles above Stockton by incorporating locks in the dams proposed for San Joaquin pumping system. Lands now irrigated from San Joaquin will benefit by reduced pumping charges resulting from higher water level. 400,000 acres of highly developed lands in San Joaquin Valley now suffering from water shortage will receive adequate supplemental supply. Water released in Sacramento river for irrigation, navigation, and salinity control will be utilized for development of power to be distributed to agricultural, domestic, industrial and municipal consumers.

Progress of engineering investigations of projects. Reclamation Era. v.25, no. 10. October, 1935. p.205. Silt survey, Colorado river, Arizona-California. Northern transmountain diversion, Colorado. Upper Snake river storage, Idaho. Buffalo Rapids, Montana. North Platte Valley, Nebraska. Deschutes, Oregon. Grande Ronde, Oregon. Southern Nevada, Nevada, Salt Lake Basin, Utah. North Platte river, Wyoming. Colorado river basin.

Reclamation Bureau outlines plans for Central Valley. Engineering News-Record. Include Contra Costa conduit and initial construction on both Friant and Kennett dams. Contra Costa conduit to cost $2,500,000 will comprise partially useful unit in advance of completion of the dams, and will supply fresh water from San Joaquin River to industrial cities on south side of Suisun Bay. Work will commence

Power. Cont'd)

on Friant dam on San Joaquin River as soon as rights of way can be obtained. Project will cost about $14,500,000. Initial work on Kennett dam will include foundations and diversion tunnels. This is major structure in Central Valley plan to bring Sacramento River under control and regulate flow of surface water so as to permit diversion into San Joaquin Valley, and will cost upwards of $50,000,000, exclusive of power plant.

Tri-county project approved. Nebraska Farmer. v.77, no. 21. October 12, 1935. p. 5, 20. Map shows location of dams, reservoirs and area to receive water.

Public Works.

Specifications and standards for public works engineering. Prepared by E.E. Russell Tratman. N.Y., McGraw-Hill publishing company, Inc., 1933. 180p. Abstracts of more than 100 specifications for materials and construction. Supplemented by standard rules and regulations.

Reclamation.

Diversion and care of the river. By O.G.F. Markhus. Reclamation Era. v.25, no.11. November, 1935. p.217-219.

Resolutions adopted by Oregon Reclamation Congress. Reclamation Era. v.25, no.11. November, 1935. p.216.

Refrigeration.

Cold storage of fruits and vegetables - Precooling and post-cooling. By Willis J. Williams. Ice and Refrigeration. v.89, no.5. November, 1935. p.285-287. Study of effects and advantages or precooling and post-cooling fruits and vegetables. Problems in cold storage of fruit. Temperatures must be kept constant. Object and method of precooling. Experiments with post-cooling show fruit keeps longer. Summary and conclusions.

Determination of condenser sizes for household units. By R.E. Tobey. Electric Refrigeration News. v.16, no. 5. October 2, 1935. p.9. Apparatus for testing. Method of testing.

Kerosene-operated refrigerator for the farm kitchen. By F.E. Sellman. Refrigerating Engineering. v.30, no.4. October, 1935. p.199-200. Recent survey conducted among farmers and others who have purchased kerosene-operated refrigerator shows practical unanimity of highly favorable opinion of service rendered to rural community through introduction of this up-to-date type of household refrigerator for farm use.

Methods of refrigeration used in transportation of lemons. By C.W. Mann and W.C. Cooper. Ice and Refrigeration. v.89, no.5. November, 1935. p.291.

Refrigeration. (Cont'd)

Nebraska University study delves into kerosene units and gives comparative data. By E.B. Lewis and M.P. Brunig. Electric Refrigeration news. v.16, no. 7. October 16, 1935. p.6-7. Presents authentic, unbiased comparative data on electric refrigeration and other types of household refrigeration equipment. Figure 1 shows temperatures maintained by various types of household refrigeration devices.

Precooling methods saving fruit, vegetables and other food products before shipment. By Harry Sherman. Ice and Refrigeration. v.89, no.5. November, 1935. p.289-291. Precooling necessary to reduce field heat in commodities packed in refrigerator cars. Methods of icing car. Better price obtained for product due to elimination of spoilage. Fast circulating air needed. Foreign shipping conditions improved. Refrigerated trucks in successful use. Drawing showing interior of pre-iced car for carrying fruit.

Small evaporators for electric refrigeration. By George Cuffe. Refrigeration, Cold Storage and Air Conditioning. v.6, no.6. September, 1935. p.9-11, 17.

Reservoirs.

Reinforced concrete structures for retention of water and other fluids. By W. Hunter Rose. Structural Engineer. v. 13, no. 10. October, 1935. p.382-384, 385-388, 389-396. Points out some of more important considerations which must arise in design of such structures, and to describe manner in which they have been dealt with in various works of recent years.

Shelterbelts.

Colorado shelterbelts. Western Farm Life. v.37, no.4. April 15, 1935. p.12. Progra, proposes six belts of trees running from foothills eastward to state line. There will be forty rows of trees fourth of a mile apart, rows generally being located on quarter section lines.

Silos.

How to build a good, economical silo with material from retail yard. By Frank H. Campbell. American Lumberman. no. 3056. September 14, 1935. p.36-37. Complaints that have been heard about silos made of wood are due wholly to lack of discrimination in selecting species of wood that are best for silo purposes, and to "rule the thumb" methods of construction which make almost impossible supplying of silos through retail lumber yards.

Simple silo construction. Southern Planter. v.96, no.9. September 1935. p.11. Discusses trench silo and fence silo.

Temporary silos for late corn. Hoard's Dairyman. v.80, no. 15. August 10, 1935. p.368. Trench silos. Crib silos.

Silos. (Cont'd)

Trench silos easy to make and economical. By A.B. Bryan. Southern Agriculturist. v.65, no. 8. August, 1935. p.4. New means of saving silage is very easy to build, is very inexpensive, can readily be enlarged, and keeps silage as perfectly as does erect type of silo.

Silt.

Colorado River desilting at Imperial dam. Engineering News-Record. v.115, no.16. October, 17, 1935. p.538-541. Removal of 60,000 tons of silt per day by circular scrapers will save $1,000,000 annually in cleaning charges on All-American Canal. Design based on extensive silt subsidence research and on model studies of various dam structures.

Dissolves solids content of Colorado river water analyzed. Engineering News-Record. v.115, no. 17. October 24, 1935. p.567. Table gives discharge and weighted average of dissolved solids in Colorado river, 1926-1934.

Reservoir silting results from preventable erosion, survey shows. Soil Conservation. v.1, no.3. October, 1935. p.6-7, 14-15. Objective is to establish information on factors involved in silting of reservoirs, rates of silting, soil slope and climate conditions, and to correlate these with land use in watershed areas. Table gives reservoirs surveyed by Soil Conservation Service, 1934-35.

Siltometer for studying size distribution of silts and sands. By Amar Nath Puri. Lahore, 1935. 6p. Punjab irrigation research institute. Research publication. v.2, no.7.

Soil Moisture.

Soil moisture meter. By W.S. Rogers. Journal of Agricultural Science. v.25, part 3. July, 1935. p.326-343. Depends on "capillary pull" of soil. Article gives illustrations of use in fallow land, grass orchard, and irrigated orchards.

Soils.

Impressions of the third International Soil Science Congress. By W.C. Lowdermilk. Soil Conservation. v.1, no.2. September, 1935. p.1, 15.

Soil conservation in the Navajo country. By Charles W. Collier. Soil Conservation. v.1, no.3. October, 1935. p.1-4.

Solar Heaters.

Solar heater reduces gas bills. Popular Mechanics. v.63, no.6. June, 1935. p.919. Gives diagram of construction.

Storage Houses.

Storage pit for potatoes. Southern Planter. v.96, no.9. September 1935. p.24. Following points are essential to safe and satisfactory pitting: 1. Do not pit potatoes until they are as cold as is safe to have them. 2. Locate pit on well-drained ground. 3. Dig or plow out soil six to ten inches deep. Make pit not much over four feet wide, and as long as necessary. 4. Pile potatoes up as high as they will stand and cover with a foot of straw, and then three inches of soil. 5. Before ground freezes too hard, put on another foot of straw, well drawn out at the ground line, and cover with six inches or more of soil. 6. Watch pit carefully for few weeks and close any cracks caused by settling. 7. No ventilators are needed if potatoes are not pitted until all heating and sweating are finished. Pits have not proved satisfactory storage places for sweet potatoes because of temperature and humidity conditions. 8. Properly pitted potatoes will not freeze.

Vegetables for winter use. By L.J. Doud. Purdue Agriculturist. v.30, no.1. October, 1935. p.1, 9. Discussion of storage.

Stream Gaging.

Stream-gaging facilitated by authentic radio transmitters. Engineering News-Record. v.115, no.17. October 24, 1935. p.579. Value of these radio indicators lies not only in reduction of administration costs but also in more accurate and frequent information to headquarters than can be obtained in any other way. Their value probably is most appreciated in flood-control work, by giving timely warnings when ordinary means of communication are temporarily disrupted,

Terracing.

Terrace outlet control. By H.O. Hill. Agricultural Engineering. v.16, no. 10. October, 1935. p.405-407. Table 1. Relative costs and advantages and disadvantages of different types of terrace outlet control structures.

Tires.

How low-pressure tractor tires are made. By H.W. Delzell. Farm Implement News. v.56, no.21. October 10, 1935. p.37-39.

Tobacco.

Flue-cured tobacco. By F.R. Darkis, L.F. Dixon and P.M. Gross. Industrial & Engineering Chemistry. v.27, no.10. October, 1935. p.1152-1157. Factors determining type and seasonal differences.

Tractors.

Advanced design in the new Oliver 70 tractor. Implement & Tractor. v.50, no.20. October 5, 1935. p.14-15. Streamlined row crop "70" with six-cylinder power plant is industry's first high compression unit. Also available for kerosene-distillate fuels. Improved hammock seat, easier

Tractors. (Cont'd)

steering, and other automotive features embodied in design. Battery-starter equipment optional. Steel-rubber wheel combination is offered. Brief specifications of the Oliver 70.

Big tractors go Diesel. Popular Mechanics. v.63, no.6. June, 1935. p.866-869. Already in California, Arizona, Oregon, Washington, and Idaho, cost of fundamentals of agriculture - plowing, disking, harrowing, weeding, seeding, harvesting - have been cut in half by advent of Diesel tractor.

1935-1936 tractor field book with power farm equipment specifications. Farm Implement News co., 431 South Dearborn street, Chicago, Ill. Compilation of facts and information of value to those who make, sell or use equipment used in power farming.

Oliver announces the "70" - a row crop six with a high-compression motor. Farm Implement News. v.56, no.21. October 10, 1935. p.30-32.

Making quality hay the tractor way. Wisconsin Agriculturist and Farmer. v.62, no.20. September 28, 1935. p.3, 9.

Michigan studies tractor costs. By K.T. Wright. Market Growers Journal. v.57, no.8. October 15, 1935. p.395, 398-399. Section of Farm Management, University of Michigan, East Lansing, gives latest figures on operation of field tractors.

S.A.E. holds tractor session. Implement & Tractor. v.50, no. 22. November 2, 1935. p.14, 30. Trend for future transmission would be along following lines: 1. Low first cost due to greater simplicity and elimination of parts. 2. Reduced size of gears, with use of improved forms of teeth and better materials. 3. Higher road speeds with greater gear reduction, to permit use of higher engine speeds. 4. Larger and better brakes to take care of higher road speeds. 5. Use of extreme pressure lubricants to prolong life of parts on account of higher pressure involved. 6. Cast iron parts to be of higher tensile strength to reduce weight. 7. Improved quality due to more accurate machines. 8. Simplified and better located power takeoff shafts. 9. Reduction in size of power lifts. 10. Improved joints or elimination of same to prevent oil leakage. 11. Facility with which owner can make his own repairs, or service set up of manufacturer for taking care of tractor promptly and efficiently. 12. Pleasing appearance to create sales appeal. 13. Standardization of tire sizes, wheel hubs, axles, wheel weights, belt pulley, hubs, etc.

Tractive efficiency of the farm tractor. By J. Brownlee Davisosn, Edgar V. Collins and Eugene G. McKibben. 1935. 259-333p. Iowa. Agricultural Experiment Station. Research bulletin no. 189.

We beg your pardon. Implement & Tractor. v.50, no.21. October 19, 1935. p.38. Through a typographical error in published report of recent Nebraska tractor test of Allis-Chalmers UC, (page 38, Oct. 5, I & T) highest permissible horsepower rating for belt, under A.S.A.E., and S.A.E. codes, was incorrectly stated. This should have read 30.86 hp.

Tractors. (Cont'd)

With new row crop tractor Massey-Harris is set for '36. Implement & Tractor. v.50, no.22. November 2, 1935. p.18-19, 22. General purpose coverage is made most complete. The four-wheel drive tractor improved and standard line meets complete range of farmers' needs.

Trailers.

Build a trailer. Popular Mechanics. v.63, no.6. June, 1935. p.922-927. Utility types.

Walls.

Precast concrete cribbing for small retaining wall. Engineering News-Record. v.115, no.17. October 24, 1935. p.578-579.

R.B.M. opportunities in low cost housing. By Judson Vogdes. Brick & Clay Record. v.87, no.4. October, 1935. p.119-121. Describes low cost wall of remarkable strength and unusual waterproof properties.

Water Proofing.

High-lime mortar for leak-proof masonry. By Frank Loftus. Industrial & Engineering Chemistry. v.27, no.10. October, 1935. p.1126-1127. Purpose of paper is to point out properties of good mortar. Comparisons with high-cement mortars have not been made, and reports of many conclusive tests between these two kinds of mortar have been omitted although these tests prove value of lime. Lime today stands for many reasons as finest waterproofing agent obtainable.

Waterproof lime. By George B. Wood. Industrial & Engineering Chemistry. v.27, no.10. October, 1935. p.1125-1126.

Water Purification.

Report on water pollution by the Special Advisory Committee on Water Pollution. 1935. 82p. Mimeographed. National Resources Committee. Water Resources Section, Washington, D.C.

Water Rights.

Legal status of water rights in Pacific Northwest. By B.E. Stoutemyer. Reclamation Era. v.25, no.11. November, 1935. p.213-215.

Water Supply.

New Hampshire Water Board outlines conservation plan. Engineering News-Record. v.115, no.18. October 31, 1935. p.600. Purpose of Board is to provide for construction of dams and other necessary works for conservation, storage and utilization of water. Water Resources Board has developed tentative program calling for building of six dams. First of these is Pittsburg reservoir project which is to be located on Connecticut river, near village of Pittsburg. Dam will consist mainly

Water Supply. (Cont'd)

of earth embankment, and will have height of 90 feet and length of about 2,000 feet. Second project is to be located directly below junction of Swift and Diamond rivers which flow into the Androscoggin. This dam will be concrete structure, 90 feet high and 1,300 feet long. Blackwater river project is located at Swetts Mill in town of Webster on Blackwater river, a tributary of Contoocook river. Proposed dam will have spillway section of concrete masonry, with earth embankments, and will have height of about 70 feet, and length of about 1,200 feet. Suncook Ponds project will be located on Suncook river about 27 miles above its confluence with Merrimack river. Dam here will be an earth structure about 50 feet high and 308 feet long. Water Loom Pond Reservoir will be created by raising present dam on Souhegan river near New Ipswich. This will be earth dam, and when completed will be about 35 feet high and 520 feet long. Dam for Livermore Falls project will be located on Penigewasset river near Plymouth. Proposed dam will be about 120 feet high and 2,000 feet long.

Water is range problem. Oregon Farmer. v.58, no.20. October 3, 1935. p.11. Many methods have been employed in effort to secure more water on dry range lands. Chief among these are development of springs with pipe lines and troughs, wells with windmills or other pumping systems, and storage tanks of earth, cement or masonry. Some experimental work i is now being done in attempt to avoid extremely expensive methods of development, and also to find methods whereby water can be made available where conditions are such that usual types of development fail. One type that is now being tried out on experimental basis is that of a shed or roof of corrugated galvanized sheet metal built on hillside; from this water is to be collected into large storage tank. Ultimate results of this particular type of development can be calculated with reasonable accuracy, because from weather records maintained over a long period of years average annual precipitation is known for each general locality.

Watersheds and the farmer. By A.R. Croft. Utah Farmer. v.56, no.5. October 10, 1935. p.3, 14.

Willamette water resources studied by army engineers. Engineering News-Record. v.115, no. 19. November 7, 1935. p.654. For purpose of developing coordinated plan for control and utilization of its waters in interest of power, navigation, irrigation, flood control and other purposes. Allotment of $200,000 from WPA funds is being used for greater part of field work.

Water Supply, Rural

Let the water do the running. By Lois Schenck. Prairie Farmer. v.107, no.19. September 14, 1935. p.3, 10-11, 27.

Wells.

Developing well water sources in Tacoma, Wash. Engineering News-Record. v. 115, no.15. October 10, 1935. p.514-515. Delivery of 9 m.g.d. from one well with maximum drawdown of 60 ft. is typical supply capacity Driving and perforating casings.

Wood.

List of publications on wood finishing subjects. 1935. 11p. Forest Products Laboratory, Madison, Wisconsin.

Selecting lumber for repairs on the farm. Northwest Farmer. v.4, no.8. October, 1935. p.2.

Wood Handbook. By R.F. Luxford and George W. Trayer. U.S. Department of Agriculture, Washington, D.C., 1935. 326p. Basic information on wood as a material of construction with data for its use in design and specification.